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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,407

10/02/2006

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000280.00052

5315

26694 7590 03/04/2010
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EXAMINER

AL HASHIMI, SARAH

ART UNIT

PAPER NUMBER

2853

MAIL DATE

DELIVERY MODE

03/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/530,407	Applicant(s) CONTA ET AL.	
	Examiner Sarah Al-Hashimi	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 14, 15 and 17-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 16, 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>04/07/2005, 11/02/2005, 10/02/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-13, 16, 20 in the reply filed on 11/17/2009 is acknowledged.
2. Claims 14-15, 17-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 11/17/2009.

Priority

3. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Italy on 10/10/2002. It is noted, however, that applicant has not filed a certified copy of the 2002A000876 application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

4. The information disclosure statements (IDS) submitted on 04/07/2005, 11/02/2005, and 10/02/2006 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Objections

5. Claim 16 is objected to because of the following informalities: please delete parenthetical numbering of drawing parts in claim (line 6). Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. Claims 12, 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has not defined “alternating motion in relation to the print medium” in the specification. From the figures, it is unclear what type of movement the serial array undergoes.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

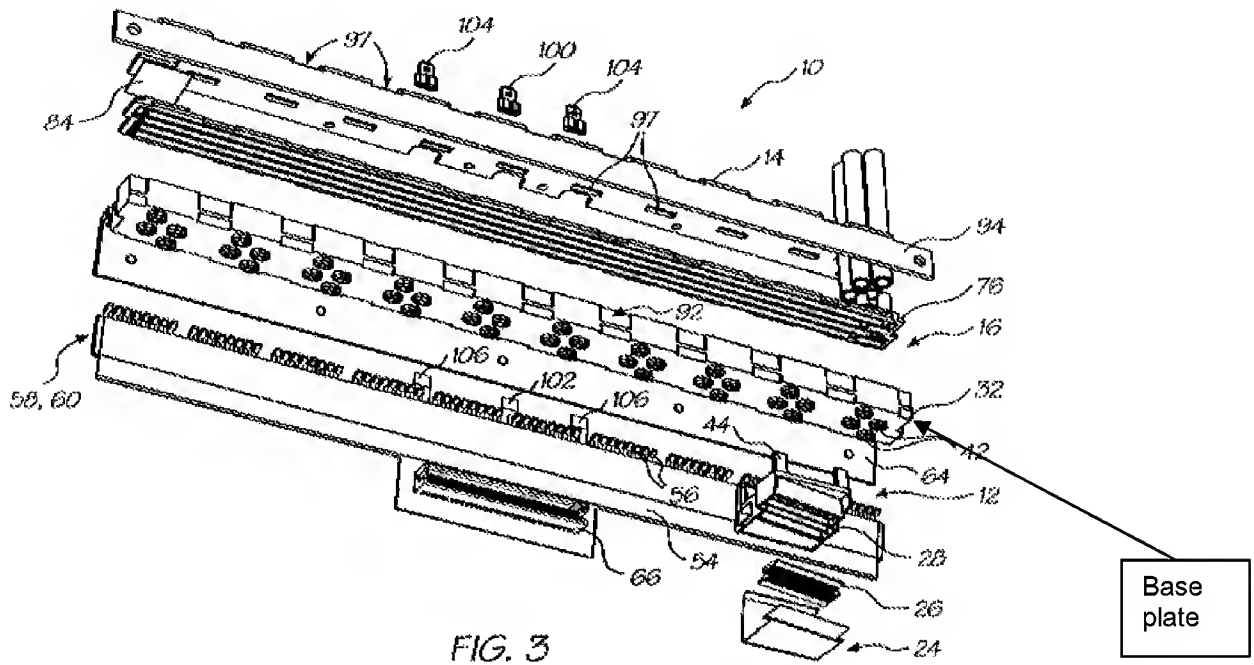
8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Silverbrook US 6,439,908.

Silverbrook teaches:

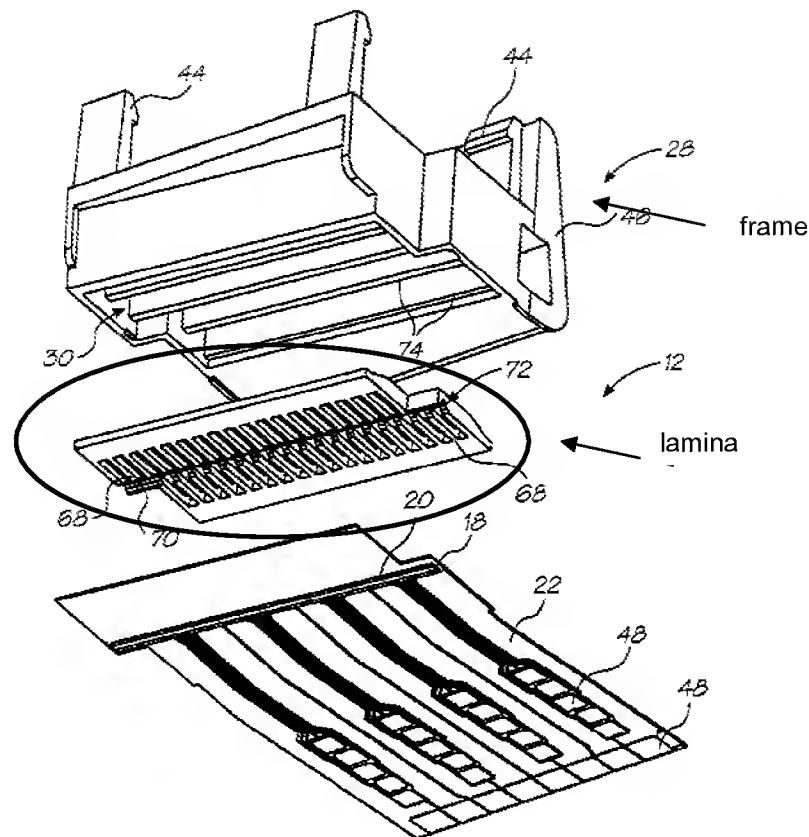
Claim 1: ejection nozzles aligned along a same direction (**col 3 line 11**), a support common to the modules (**fig 1 #16**) and hydraulic tight means (**fig 2 #28**), and in which: the support comprises a base plate of rigid material (**see figure below**) that defines through its thickness a feeding duct for the ink (**fig 3 #42**) which, in use, is substantially parallel to the line of printing; and the ejection modules are mounted side by side on said support plate (**fig 1 #12**) and with the chambers arranged in a line along the same direction (**fig 8 #30**) and in hydraulic connection with the feeding duct , said

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hydraulic tight means achieving a hydraulic tight connection between the said modules and the feeding duct (**fig 2 #28**).



Claim 2: said hydraulic tight means comprises a lamina mounted between the modules and, through a frame, the support (**see figure below-48 and 44 comprise a frame attaching to the support**).



Claim 3: said ejection nozzles are obtained from a nozzle plate constituting a hydraulically tight, upper closing surface for said chambers and in which said ejection nozzles are in hydraulic connection with corresponding chambers of the ejection modules (**col 3 lines 11-18-discloses a nozzle layer constituting a nozzle plate that is “positioned over an ink supply channel that extends through the silicon substrate”**).

Claim 4: a secondary tank in hydraulic connection with the feeding duct and integral with said plate capable of receiving a fill of ink (**fig 12 #80**).

Claim 6: said feeding duct is a slot-shaped aperture extended in the longitudinal direction along which the modules are disposed (**fig 3 #42**).

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Claim 7: said chambers are in hydraulic connection with a front of the module and in which a counterpart is provided of the same thickness as the modules, mounted on the base plate parallel to the front of the modules delimited by the lamina or the nozzle plate and connected to the duct, defining a passage for the ink for said chambers **(fig 8 #30)**.

Claim 8: said chambers are defined as notches in a polymerizable film deposited on a die of the module **(fig 8 #30)** and in which the nozzle plate is attached by polymerization **(col 3 lines 11-18-discloses a nozzle layer)**, with said film on the modules and with an adhesive on said counterpart **(fig 8 #20)**.

Claim 9: the base plate supports electric interfacing circuits for said modules **(fig 8 #18)**.

Claim 10: said nozzle plate supports electric interfacing circuits for said modules **(fig 8 #18—nozzle layers attached to memjet chip)**

Claim 11: rows of a plurality of modules for a plurality of inks and in which said rows of modules are arranged in an array on a support plate which defines feeding ducts for the chambers of the rows of modules **(fig 1 #12)**.

Claim 13:

a - providing a support common to the modules **(fig 1 #16, 12)** and which defines a slot- shaped aperture for the ink which constitutes a feeding duct for the ink **(fig 3 #42)** and a nozzle plate in which the ejection nozzles are arranged substantially in a line along a same direction **(col 3 lines 11-18-discloses a nozzle layer constituting a nozzle plate)**;

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b -fixing the ejection modules on said support in hydraulically tight connection and such that the respective edges are aligned and face the slot-shaped aperture (**fig 3—shows how modules are fixed to support facing slot-shaped apertures**); and

c - hydraulically tight fixing the nozzle plate on the modules and the support in manner that the nozzles face on the chambers thereby forming the upper closing surface of the ejection chambers and of the feeding duct for the ink modules (**col 3 lines 11-18-discloses a nozzle layer constituting a nozzle plate that is “positioned over an ink supply channel that extends through the silicon substrate”**).

Claim 20: said chambers are defined by notches in a polymerizable film deposited on a die of the module (**fig 8 #30**) and in which the nozzle plate is attached by polymerization (**col 3 lines 11-18-discloses a nozzle layer**), with said film on the modules and with an adhesive on said counterpart (**fig 8 #20**).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Silverbrook US 6,439,908 in view of Tomikawa US 6,039,441.

Silverbrook doesn't teach but Tomikawa teaches:

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Claim 5: an elastic joint filter for a removable cartridge and in which said joint allows freedom of movement between said plate and said cartridge and has a filter function for the ink of the cartridge **(col 9 lines 7-8)**.

Therefore it would have been obvious to modify Silverbrook to incorporate an elastic joint filter for a removable cartridge and in which said joint allows freedom of movement between said plate and said cartridge and has a filter function for the ink of the cartridge as taught by Tomikawa in order to prevent leakage of ink.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook US 6,439,908 in view of Kanda US 6,142,604.

Silverbrook teaches:

Claim 16: said head (21,73) or each of said heads comprises a plate which defines a feeding duct for the ink **(see figure 3 above)**; and said ejectors face on to said plate **(fig 1 #12)** and with the chambers **(fig 8 #30)** arranged in a line along a same direction in hydraulic, tight connection with the feeding duct **(fig 3 #42)**;

Silverbrook doesn't teach but Kanda teaches:

Claim 12: said support plate and said modules define the head or the heads and in which said head or said heads are capable of alternating motion in relation to the print medium for a serial-parallel printing with printing resolution greater than the physical resolution of the pitch between the nozzles **(col 18 lines 7-8)**.

Claim 16: between said plate and said print medium alternating motion is provided, synchronous with the continuous feeding motion of said print medium for a printing

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resolution greater than the physical resolution of the pitch between the nozzles (**col 18 lines 7-8**).

Therefore it would have been obvious to modify Silverbrook to incorporate said support plate and said modules define the head or the heads and in which said head or said heads are capable of alternating motion in relation to the print medium for a serial-parallel printing with printing resolution greater than the physical resolution of the pitch between the nozzles as taught by Kanda to improve image quality.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Al-Hashimi whose telephone number is 571 272 7159. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272 2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either PAIR or Public PAIR. Status information for unpublished applications is available through PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SA/

/Stephen D Meier/
Supervisory Patent Examiner, Art Unit 2853